



Infectious
Diseases Labs

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ID LABS SEMINAR SERIES



Dr Alvin Tan

NMRC Young Individual Research Grant Research Fellow
Emerging Infectious Diseases
Duke-NUS Medical School, Singapore



Thursday 1st July 2021
4pm to 5pm (SGT)

Join zoom meeting [here](#)
Meeting ID: 982 9842 1086
Passcode: 367375



Webinar is open to all
No registration required

Dissecting virus-host interactions that drive flavivirus infection and disease pathogenesis

Host factors and pathways play a crucial role in promoting virus replication and pathogenesis. A hyperactive immune response to virus infection contributes significantly to the disease manifestations of Zika and dengue and is having a severe impact on the disease and death toll in the current COVID-19 pandemic. In addition to direct acting antivirals, the elucidation of the mechanisms driving the host inflammatory response is crucial to instruct the development of therapeutics that can tame these responses and reduce virus-associated morbidity and mortality.

I will first present my usage of both affinity purification-mass spectrometry (AP-MS)-based proteomic and transcriptomic approaches to identify host factors and pathways that interact with flaviviruses during virus infection. I will then report on a recent study establishing the NF- κ B signaling pathway as the driver of a cell type-specific inflammatory gene response to Zika virus infection that has implications on virus replication and pathogenesis, before finally discussing the potential of targeting this pathway for therapeutic intervention.

Dr Alvin Tan received his BSc in Biological Sciences from Cornell University and completed his PhD in Virology under the supervision of Peter Howley at Harvard Medical School. He has performed post-doctoral research at University of Washington and Genome Institute of Singapore and is currently a Senior Research Fellow at Duke-NUS Medical School in the laboratory of Subhash Vasudevan. He was a recipient of A*STAR National Science Scholarships in 2004 and 2008, and the NMRC OF-YIRG in 2016.

His long-standing research interest has been in the field of virology, in particular virus-host interactions and virus pathogenesis. His recent work has focused on flaviviruses and the role of their interacting host factors and pathways in virus replication and disease pathogenesis.